

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/630,126	ROMANYSZYN, MICHAEL T.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David A Reifsnyder	1723	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed on July 30, 2003.
2. ☒ The allowed claim(s) is/are 25, 29, 45 and 47-52 (renumbered claims 1, 4, 7, 8, 9, 2, 3, 5 and 6, respectively).
3. ☒ The drawings filed on 30 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                 |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>6/18/04</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                        |
|   | 9. <input type="checkbox"/> Other _____.  |

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Authorization for this examiner's amendment was given in a telephone interview with Christopher Makay on June 17, 2004. In that telephone interview, because claim 46 claims the exact same elements as claim 48, and therefore is a substantial duplicate of claim 48, it was agreed to delete claim 46 by Examiner's Amendment.

### *In The Claims*

claim 46 has been canceled.

### REASONS FOR ALLOWANCE

The main reason for the allowance of claims 25, 49 and 50 is the instantly claimed fluid treating apparatus, comprising: a first vortex nozzle including a passageway therethrough and a port that inlets a first fluid flow substantially **tangential and normal** to the passageway, whereby the first vortex nozzle imparts a rotation to the first fluid flow thereby creating a first rotated fluid flow; and a second vortex nozzle

positioned in opposed relation the first vortex nozzle, the second vortex nozzle including a passageway therethrough and a port that inlets a second fluid flow tangentially to the passageway, whereby the second vortex nozzle imparts a rotation to the second fluid flow thereby creating a second rotated fluid flow collided with the first rotated fluid flow.

The main reason for the allowance of claims 29, 51 and 52 is the instantly claimed method of treating a fluid, comprising: positioning a first vortex nozzle in opposed relation to a second vortex nozzle; inletting a first fluid flow substantially **tangential and normal** to a passageway of the first vortex nozzle via a port of the first vortex nozzle, whereby the first vortex nozzle imparts a rotation to the first fluid flow thereby creating a first rotated fluid flow; and inletting a second fluid flow substantially **tangential and normal** to a passageway of the second vortex nozzle via a port of the second vortex nozzle, whereby the second vortex nozzle imparts a rotation to the second fluid flow thereby creating a second rotated fluid flow collided with the first rotated fluid flow.

Furthermore, the main reason for the allowance of claims 25, 29 and 49-52 is found in the applicants remarks filed July 30, 2003.

The main reason for the allowance of claim 45 is the instantly claimed fluid treatment system, comprising: a pump; two opposed vortex nozzles; a manifold for receiving fluid from the pump and directing it to the nozzles; and a frame, wherein the pump, nozzles, and manifold are mounted to the frame.

The main reason for the allowance of claims 47 and 48 is the instantly claimed fluid treatment system, comprising: a pump; two opposed vortex nozzles; and a manifold for receiving fluid from the pump and directing it to the nozzles, wherein the manifold comprises two elbows, and each of the elbows comprises two elbow fittings.

### ***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ashbrook (4,261,521) who discloses a fluid treating apparatus including a first vortex nozzle in opposed relationship to a second vortex nozzle. Ashbrook (5,435,913) who discloses a fluid treating apparatus including a first vortex nozzle in series with a second vortex nozzle in opposed relationship to third vortex nozzle in series with a fourth vortex nozzle. Hlavenka who discloses a fluid treating apparatus including a Vortex Nozzle.

### ***Conclusion***

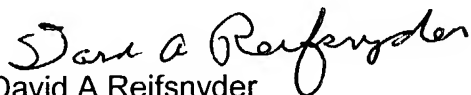
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Reifsnnyder whose telephone number is (571) 271-1145. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda M Walker can be reached on (571) 272-1151. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David A Reifsnyder  
Primary Examiner  
Art Unit 1723

DAR